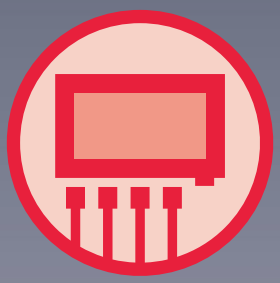
24-Port 10/100 L3 Switch

Model: 065-7434



Active

Installation Guide

Revision A1

SIGNAMAX™
CONNECTIVITY SYSTEMS

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Overview

065-7434 Signamax 24-Port 10/100 L3 Switch provides telecom-level Ethernet access switches for operators. It supports next generation L2 and L3 features meets the requirements of customers for QoS, OAM, VPN, Multi-service and Protection.

065-7434 Signamax 24-Port 10/100 L3 switch can help customers develop IPTV, VoIP, VPN, wireless access and TDMoIP services. The high integrated platform design meets the requirement of the customer that a box provides rich physical interface and software features to reduce the total cost (TCO) and operating expenses (OpEx).

065-7434 Signamax 24-Port 10/100 L3 Switch is the first in the world to adopt dual power supply, high integrated E1/T1 interface, standard PoE, and optical-electric Ethernet access on the access device. The operators adopt it to be deployed in 2G/3G base station for developing multi-service access (wireless, VPN, and mobile) and completing the reconstruction from TDM to IP.

Key Features:

- Multi-service Ethernet switch with highest integrity
- First to support dual power supply on access-level Ethernet device
- Supports perfect OAM protocol
- Supports VPN services defined by MEF
- 50ms Ethernet service protection
- Supports QinQ and selective QinQ
- Supports UDLD and improves operation and maintenance capabilities
- Supports rich L2 and L3 protocols
- Supports PoE and TDMoIP

Product Features

- **Multi-service access**

065-7434 Signamax 24-Port 10/100 L3 Switch supports the PoE power supply of eight Ethernet interfaces for accessing wireless AP; provides eight E1/T1 interfaces (TDMoIP) to meet the requirement that operators access 2G base station service to IP network through E1/T1 interfaces, and access the traditional TDM devices such as PBX, realizing unified IP bearing; supports Ethernet fiber access for operators to access commercial customers.

- **Perfect OAM**

Currently, 065-7434 Signamax 24-Port 10/100 L3 Switch is one of Ethernet access devices with perfect OAM. It can help operators to manage the network more efficiently. In this way, the operation cost of customers is reduced. The supported OAM standards include 802.1ag, 802.3ah and E-LMI.

- **Various VPN services**

065-7434 Signamax 24-Port 10/100 L3 Switch passes MEF9 and MEF14 authentications of MEF, and supports the three VPN services including EPL, EVPL and E-LAN defined by MEF to help operators open various VPN services for customers.

- **Carriers-level UNI/NNI**

Considering carriers, 065-7434 Signamax 24-Port 10/100 L3 Switch defines all downstream interfaces as UNI interfaces. By default, UNI interfaces are in close state and have no local switching function. And the data on UNI interface is not sent to CPU, which ensures the device security. By default, NNI interfaces are enabled, which is convenient for carriers operate remotely.

- **50ms service protection**

065-7434 Signamax 24-Port 10/100 L3 Switch adopts Ethernet ring protection technology of Signamax, which can realize 50ms network protection in single-ring, dual-ring/multi-ring, tangent-ring and crossover-ring networking environments. In this way, the service continuity of carriers is ensured and customer satisfaction is improved.

- **High reliability**

065-7434 Signamax 24-Port 10/100 L3 Switch is one of the devices that are first to support power redundancy in 1U box. Each power can access different power supply network. In this way, the hot backup for power modules (to prevent power supply fault) and the backup for power supply network (to prevent the power-off of power company) are realized.

- **Advanced QoS**

Each port of 065-7434 Signamax 24-Port 10/100 L3 Switch supports eight queues and the queue scheduling policies such as SP, RR, WRR, and WDRR; rich priority mappings including 802.1p→802.1p, 802.1p→COS, DSCP→802.1p, and DSCP→DSCP; 64Kbps-based port traffic rate restriction and carriers can limit the rate according to time segment; Tail Drop and sRED packet loss arithmetic.

065-7434 Signamax 24-Port 10/100 L3 Switch supports single-rate

three-color mode (srTCM) and dual-rate three-color mode (trTCM) to meet the SLA requirements of carriers, including CIR, CBS and PIR.

- **L2/L3 multicast**

065-7434 Signamax 24-Port 10/100 L3 Switch supports 1024 concurrent multicast data flow; IGMP snooping and IGMP fast-adding/leaving protocol.

- **Powerful anti-attack checking capability**

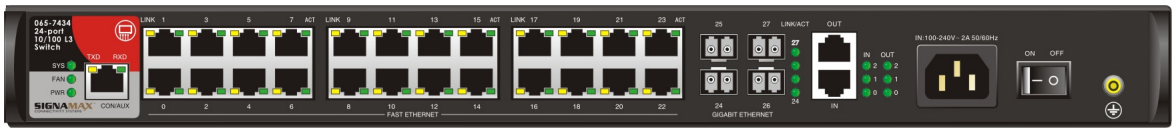
065-7434 Signamax 24-Port 10/100 L3 Switch supports LAND, SYN Flood, Smurf, Ping Flood, Teardrop and Ping of Death and defines the processing policies for attack packets to ensure the device and network security.

- **Various authentication modes**

065-7434 Signamax 24-Port 10/100 L3 Switch supports PPPOE and 802.1x access authentication modes, and Radius and TACAS+ protocols to meet the requirements of carriers' access authentication, authorization and accounting for customers.

Hardware Features

Front Panel of 065-7434 Signamax 24-Port 10/100 L3 Switch



Front panel of 065-7434 Signamax 24-Port 10/100 L3 Switch

The above are the front panels of 065-7434 Signamax 24-Port 10/100 L3 Switches. The meanings of the indicators on the panels are as follows:

SYS & PWR & FAN (system, power and fan indicators)

- SYS: system status indicator, which flashes slowly after successful system loading;
- MASTER: system power indicator, which is on when the right (taking the power panel as the reference side) 5V power works normally;
- SLAVE: system power indicator, which is on when the left (taking the power panel as the reference side) 5V power works normally;
- FAN: system fan indicator, which is reserved for checking 3-wire fan status (when the indicator is off, the fan works abnormally; when it is on, the fan works normally); when the 2-wire fan is adopted, the indicator is always on.

CON/AUX (console/AUX port)

- TXD: the indicator for console/AUX port sending data;
- RXD: the indicator for console/AUX port receiving data;

FET0-23 (100M Ethernet port)

- LINK: the indicator of Ethernet port link, which is always on when the link of Ethernet port is set up;
- ACT: the indicator of Ethernet port sending/receiving data, which is flashes when data is being sent or received;

FEF8-23 (100M Ethernet port)

- LINK/ACT: the indicator of Ethernet port link, which is always on when the link of Ethernet port is set up and flashes when data is being sent or received;

GE24-27 (WAN 1000M Ethernet port)

- IN/OUT: the indicator of 3I3O alarm input/output; the software control indicator is on;
- LINK/ACT: the indicator of Ethernet port link, which is always on when the link of Ethernet port is set up and flashes when data is being sent or received;

The interfaces on the front panels of 065-7434 Signamax 24-Port 10/100 L3 Switch

Device Type	Interface	Interface Type	Description
065-7434 Signamax 24-Port 10/100 L3 switch	CON/AUX	RJ45	Console port
	FET	RJ45	24 100M Ethernet electric ports
	GEF	RJ45	Four 1000M Ethernet optical ports
	3I3O	RJ45	Three input and three output alarm signals

065-7434 Signamax 24-Port 10/100 L3 Switch System

The basic configurations and working environment of 065-7434 Signamax 24-Port 10/100 L3 Switch are described as follows:

The system of 065-7434 Signamax 24-Port 10/100 L3 Switch:

Item	**Description**
CON/AUX port	RJ45, asynchronous DTE working mode
100M Ethernet electric port	100M fast Ethernet port (RJ45)
100M Ethernet optical port	100M Ethernet optical interface (SFP)
1000M Ethernet optical port	1000M Ethernet optical interface (SFP)
E1/T1 interface	E1/T1 interface (RJ45)
CLK interface	2M/25M clock input

Three alarm input/output interfaces	Supports three alarm input signals and three alarm output signals
Processor	High-speed MIPS32 processor
FLASH	32Mbytes
SDRAM	128Mbytes
Demission (W×D× H)	444x220x43.8mm
Max. weight	About 3.5Kg
Input voltage	AC: 100-240V, 50/60Hz; DC: -40V—-57V (5V output power; only for the device without POE function); DC: -46V—-57V (POE input power);
Temperature	0-50℃
Relative humidity	10-90%, non-condensing
Rated power	60W (5V AC/DC output power)
	150W (-48V output POE power)
	500W (5V and -48V output DC power)
Max. power consumption	About 22W

Product Functions

The functions and supported protocols and services of 065-7434 Signamax 24-Port 10/100 L3 Switch are as follows:

Supported Protocols and Services	**Description**
VPN	EPL, EVPL, E-LAN (comply with MEF9)
OAM	802.1ag (CFM), 802.3ah, E-LMI, Y.1731
QoS	Each port supports eight queues; Supports 802.1q and can change the packet priority; Limited speed of traffic: srTCM (single-rate three-color mode), trTCM (dual-rate three-color mode);

	SLA: CIR, PIR, CBS Priority mapping: the mapping among 802.1p, COS, DSCP Limited speed of Ingress port: 64Kbp particle, limit the speed based on time period Queue scheduling: SP, RR, WRR, WDRR Block workaround: Tail Drop, sRED
50ms protection	Adopts Ethernet ring protection protocol (ERPP) (private standard of Signamax); The number of nodes on the ring is not limited; Supports single ring, dual-ring, crossover ring, tangent ring
TDMoIP	Supports E1 and T1, up to eight 8 E1/T1 interfaces, RJ40 physical interface; Supports SAToP, CESoPSN, and HDLC bearing mechanisms; Supports independent clocks, including internal clock, external clock, loop clock and RTP clock; Supports 64 independent TDMoIP data flow; Compatible with ITU-T Y.1413, Y.1414, IETF PWE3;
Security	IP packet filtering firewall; Configure command grading protection to ensure that the unauthorized users cannot log in to the switch; MD5; RADIUS; TACACS; AAA; 802.1x; Supports IP Source Address spoofing check; Supports LAND attack check; Supports SYN Flood check; Supports Smurf attack check; Supports Ping Flood attack check; Supports Teardrop attack check; Supports Ping of Death attack check; Supports Netbios/Samba filtering; Supports port isolation; Supports port monitoring; Supports port security; Supports dynamic ARP check; Supports DHCP Snooping;
VLAN	The value range of VLAN ID is 1–4094 Supports dividing VLANs based on port, protocol, MAC, and IP address Port VLAN type: Access, Trunk, Hybrid Supports Super-VLAN and Sub-VLAN
QinQ	Complies with IEEE 802.1ad; Supports modifying label protocol ID; Supports up to 1024 QinQs; Supports selective QinQ based on C-VLAN ID; Supports the mapping between C-VLAN and S-VLAN;
Multicast	Supports IGMP Snooping;

	Supports IGMP fast adding/leaving; Supports MVR; Supports multicast ACL; The whole device supports 1024 multicast data flows;
Authentication	Supports IEEE 802.1x EAP trunk working mode EAP ending working mode Based on MAC address and port Compatible with Windows client Supports Auto VLAN Supports Guest VLAN Supports Radious, nTACAS+
Availability	Supports UDLD Supports SLA Supports dual power redundancy
Configuration and management	Supports SSH, Telnet, SNMPV1/2 Supports outband Console port, and Ethernet port (shared with service Ethernet port) management Supports Masterplan management and third-party network management system Supports SPAN
L2 protocol	Supports MSTP; Supports LACP; Supports L2 Protocol Tunnel; Supports LLDP; Supports port management and statistics; Supports loopback detection
L3 protocol	Static route, RIPv1/v2, OSPF, IPv4 protocol stack, UDP/TCP
Upper layer application	TELNET，FTP/TFTP，DHCP， SNMP V1/V2，NTP

Modules

065-7434 Signamax 24-Port 10/100 L3 Switch modules include one POE module and several kinds of AC/DC power modules.

POE15-8PSE Module

Ethernet Port Power Supply Control Module (POE15-8PSE)

POE15-8PSE module is used by 065-7434 Signamax 24-Port 10/100 L3 Switch to control the power supply of up to 24-port Ethernet interface. Each Ethernet port provides up to 15W power. It serves as PSE and is inserted in 065-7434 Signamax 24-Port 10/100 L3 Switch chassis. 065-7434 Signamax 24-Port 10/100 L3 switch does not support this module.

Connection of POE15-8PSE Interface Module

POE15-8PSE module is directly inserted on two connectors of the device. For details, refer to the chapter of "System Installation".

Power Module (Mandatory)

065-7434 Signamax 24-Port 10/100 L3 Switch is a fixed device. The power adopts the fixed structure. 065-7434 Signamax 24-Port 10/100 L3 Switch adopts dual power modules, which are hot backup for each other. The power modules include two modes, including AC and DC. The user can select single power module or dual power modules as desired. One 065-7434 Signamax 24-Port 10/100 L3 Switch must select one or dual power modules. When dual power modules are selected, they must be the combination of AC power and AC power or DC power and DC power.

AC power: 100～240V 50/60Hz, 60W
AC power: 100～240V 50/60Hz, 150W (provides power for one POE15-8PSE module)
DC power: -40～-57V, 60W (only for the devices without POE function)

DC power: -46～-57V, 500W (only for the devices with POE function)

The power modules for 065-7434 Signamax 24-Port 10/100 L3 Switch are as follows:

Power Model	Description
AD150-1S007A	150W AC power module (inbuilt and can provide power for one POE15-8PSE module)

Installation Preparations

Security Suggestions

To avoid the harms on persons and equipments caused by various accidents, comply with the following:

- Keep the switch far away from humid places and heat;
- Ensure that router is well grounded;
- Wear anti-static wrists during installation and maintenance, and ensure that the anti-static wrists contact well with the skins;
- Do not install, move and dismantle switches and modules during power on to avoid damages on persons and equipments;
- Do not hot swap the interface modules or interface cards of the switch;
- Connect the interface cables of switches correctly, especially do not connect phone lines (including ISDN lines) to serial ports;
- Pay attention to the laser use security (for example, do not keep eyes open at the optical emitting mouth of LASER or the fiber connecter;
- Use Uninterrupted Power Supply (UPS);
- The AC power switch of the switch cuts the main return circuit of AC power supply. It is recommended that the user connects the main return circuit of the power input to the external control switch so as to cut down power supply fast in case of accidents.

Environment Requirements

065-7434 Signamax 24-Port 10/100 L3 Switch must be used indoor. To guarantee stable use of the switch and prolong the life, the application scenario must meet the following requirements.

Temperature and Humidity

To ensure the service quality and life of 065-7434 Signamax 24-Port 10/100 L3 Switch, it is recommended to maintain a certain temperature and humidity in the computer lab. If the humidity in the computer lab is high for long time, it causes the poor insulation and even electricity leak of insulation materials easily.

Sometimes, the mechanical performances of materials change and the metal parts are corroded easily, too. If the relative humidity is too low, insulation pads shrink, which causes the fastened screws loose. Meanwhile, in dry environment, static electricity appears easily, which harms the circuits on the switch.

If the temperature is too high, the reliability of the switch reduces greatly. The long-time high temperature affects the life and speeds up the aging of insulation materials.

The recommended temperature and humidity in computer room:

Temperature		Relevant humidity	
Short-term	Long-term	Short-term	Long-term
15℃～30℃	0℃～50℃	40%～65%	10%～90%

🕮 Note

1) *Measuring points of the working temperature and humidity of 065-7434 Signamax 24-Port 10/100 L3 Switch in the computer room mean the values measured from the floor above 1.5 m and 0.4 m from the front of the rack when there are no protection boards.*
2) *The short-term working condition means less than 48h continuously and less than 15 days for the annual total.*
3) *Extreme adverse working environment means the environment temperature and humidity when the air-conditioning system in the computer room fails. Each time the normal work should be recovered within less than 5h.*

Dust-free Environment

Dust is harmful for 065-7434 Signamax 24-Port 10/100 L3 Switch operation. Dust causes static absorption, which makes the poor contact of metal pieces. Static absorption appears especially when the temperature and humidity are lower, which affects the device life and causes communication fault.

Dust requirements for the room:

Maximum diameter (μm)	0.5	1	3	5
Maximum concentration (contained particles per m^3)	1.4×10^7	7×10^5	2.4×10^5	1.3×10^5

Apart from dust, the switch has strict requirements for SO2, H2S, NH3, and Cl2 in the room, because these harmful gases speed up the eroding of metals and the aging of some components.

The specific limitations are as follows:

Gas	Maximum value (mg/m3)
SO_2	0.2
H_2S	0.006
NH_3	0.05
Cl_2	0.01

Anti-static

065-7434 Signamax 24-Port 10/100 L3 switch takes lots of measures in anti-static, but when the static exceeds a certain volume, the circuits even the whole device are damaged.

In the communication network connected to the switch, static electricity originates from external electric field of high-pressure like electricity cables and thunders, and internal system such as floor material and chassis structure. To prevent the damage caused by the static, do as follows:

- Ensure proper equipment grounding
- Maintain dustproof room
- Keep suitable temperature & humidity
- Wear anti-static equipment
- Place the disassembled circuit board on the anti static workstation and keep the face upturned or in the anti static bag
- When viewing or removing the disassembled circuit board, touch the edge of circuit board and avoid touching the components on the circuit board.

Electromagnetic Environment Requirements

The various interference sources no matter from the exterior of devices or application systems or from the interior affect the devices through capacitance coupling, inductance coupling, electromagnetic radiation, public impedance (including grounding system) and lead (such as power lines, signal lines and output lines).

Therefore, pay attention to the following:

- Take anti-electric network interference for power system;

- The switch working place had better not be used with the grounding settings of power devices or anti-thunder grounding settings and the distance between them had better be as long as possible;
- Be away from the strong power radio transmitters, radar transmitter, and high frequency high-current equipments.
- Take electromagnetic shielding methods when necessary.

Anti-lightning

065-7434 Signamax 24-Port 10/100 L3 switch takes lots of measures in anti-lightning, but when the lightning exceeds a certain volume, the router may be damaged. To prevent the damages caused by lightning, do as follows:

- Ensure that the protect ground of the chassis is well grounded;
- Ensure that the grounding point of AC power supply jack is well grounded;
- Add power lightning arrester to the input end of the power supply, so as to improve the anti-lightning capability of the power supply;
- To improve the anti lightning capability, the 065-7434 Signamax 24-Port 10/100 L3 Switch interface modules are connected to outdoor signal lines. You can add special anti-lightning equipment to the input end of signal lines.

Check Switch & Accessories

After ensuring the installation environment requirements are met, you can open the package. However, before installation, check whether the switch and the accessories are complete as per the purchase order.

Tools & Equipment

Tools

- Slotted point screwdriver/cross point screwdriver
- Level, ruler or tapeline
- Anti-static equipment

Connected cables

- Cables in the package

Equipment

- Configuration terminal (can be PC)
- HUB or Ethernet switch

System Installation

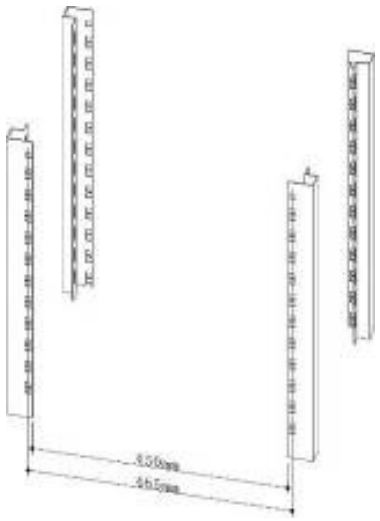
Preparations

Tools

Before installation, prepare slotted point screwdriver/cross point screwdriver, level, ruler or tapeline, and anti-static equipment.

Check Cabinet

Signamax devices are designed according to the dimension of 19-inch standard cabinet, so they can be installed and fixed normally on 19-inch standard cabinet.

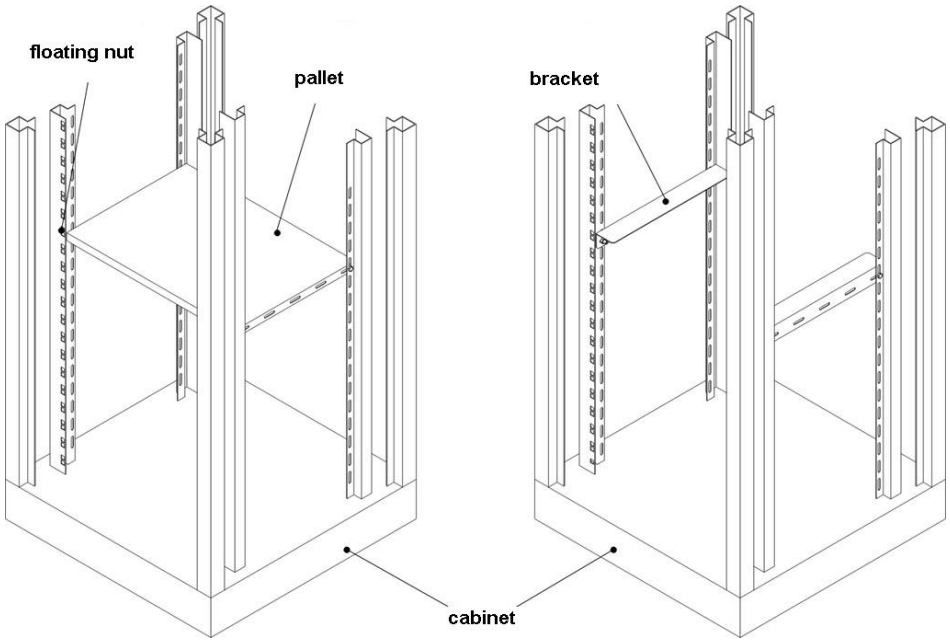


Center distance of horizontal installation hole and net horizontal installation space

Use the level or tapeline to measure the center distance of the horizontal installation hole and net horizontal direction installation space of the cabinet.

Check whether the pallet bracket, floating nut, fixed screw, and baffle board on the cabinet are complete, which are the standard accessories. Different cabinets have different dimensions and shapes. Therefore, to add cabinet accessories, contact the supplier of the cabinet to provide genuine accessories.

The device must be installed on the pallets or trays (used in pairs) of the cabinet. Therefore, install the pallets or trays on the cabinet before installing the device as follows. Use the level to check whether the pallets or trays are horizontal. If not, adjust the fixed bolt of pallet or tray to make the pallet or tray horizontal and then fasten it.



Pre-installed pallet or bracket

Check whether the floating nut for fixing the device is installed in the square hole of the cabinet column. If not, insert the floating nut to the square hole according to the position of the pallet or tray.

It is required that one device is placed on a pallet or a bracket. It is not recommended to overlap multiple devices.

Check Switch & Accessories

After ensuring the installation environment requirements are met, open the package and check whether the router and the accessories are complete according to the purchase order.

If there is some missing or damaged items in the package, contact the equipment dealer or sales.

During check, place router and accessories at safe place to avoid falling down or impacting; keep the router far away from the places with liquids, toxic gases and dust to avoid damages on the router.

When moving or checking the device, wear gloves to avoid the corrosion of metal parts caused by perspiration.

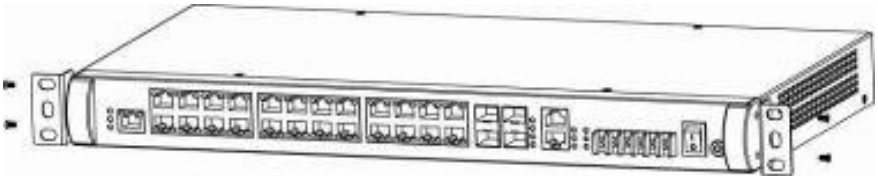
Keep all packaging materials for later use during transporting.

Install Switch

Install 065-7434 Signamax 24-Port 10/100 L3 switch in the cabinet:

Step 1: Wear gloves and anti-static wrists, and make the anti-wrists well grounded;

Step 2: Place the device on the fixed platform; make the installation holes of the brackets aim at the corresponding holes of the device sides; use the bolts to fix the brackets on the two sides of the device, as follows.



Bracket

Step 3: Make the front of the device face the operator. Use two hands to hold the device and keep the device horizontal. Be careful to place the device on the pallets or brackets from the cabinet front. When placing the device, avoid the collision between the shelf and the cabinet. For heavier or higher device, two persons should cooperate to perform the operation.

Step 4: Use two hands to push the device into the cabinet and make the brackets of the device close to the surface of the cabinet column.

Step 5: Use the fixed screws to install the device on the column of the cabinet as follows.

Installing switch to cabinet

Step 6: Check whether the device is installed fixedly and straight.

Step 7: Check the spaces between the installed devices. Select the appropriate baffle boards (standard accessories of the shelf) to place in the spaces between the devices; use the bolts to fix the baffle boards on the shelf.

Note

Installation suggestions:
When installing several devices on one cabinet, consider trying to install heavier devices at or close to the bottom of the cabinet on the premise of not affecting the whole cabling and layout. In this way, the gravity center of the cabinet is lowered and the stability is improved.

When installing the device in the cabinet, it is recommended to reserve 1U space between the devices for dispersing the heat. Install the baffle boards between the devices.

Connect Cables

This section describes the methods of connecting the cables on the control board of the 065-7434 Signamax 24-Port 10/100 L3 Switch to the network, including connecting the console port of the switch.

Connect Console Port of Switch

065-7434 Signamax 24-Port 10/100 L3 Switch provides one EIA/TIA-232 asynchronous serial console port, through which the user can adopt the character terminal with RS-232 serial port (it is usually a PC) to configure the switch.

For details of the connection and configuration, refer to the later chapter.

Configure the switch via the terminal as follows:

Step 1: Find a character terminal, which can be the terminal with RS-232 serial port or a PC. Usually, it is the latter.

Step 2: After confirming the switch or the character terminal is powered off, connect the RS-232 serial port of the character terminal to the console port of the switch by configuring cables.

Note

Pay attention to the interface ID during connection, so as to avoid inserting into other interface.

Grounding Wire Connection

The normal connection of 065-7434 Signamax 24-Port 10/100 L3

Switch ground wire is the first guarantee of anti-thunder and anti-interference of the switch. It is required that users must connect the ground wires correctly.

AC noise filter is connected to the AC input end of switch power supply, whose center is connected with chassis. The chassis ground (that is protect ground) must be connected to the ground, so as to make induction electricity and leaked electricity flow to the earth and improve the feature of anti electromagnetic interference.

For external network connection such as E1 interface, grounding cable protects the PSTN. The grounding wire also protects the thunder high voltage from the external network connection such as E1 interface and PSTN.

Connect this point and ground it by a thick cable with resistance not bigger than 4Ω. If the switch is installed on 19-inch standard cabinet, the cabinet should be grounded.

Connect Power Supply

065-7434 Signamax 24-Port 10/100 L3 switch adopts stable power supply switch system and has a low requirement for input AC. It supports 220V and 50Hz AC, which is a civilian electricity standard. Different areas have different power supply systems.

The input power supply requirements of 065-7434 Signamax 24-Port 10/100 L3 Switch are as follows:
AC: 100-240V, 50/60Hz
DC: -40--57V (the devices without POE function)
DC: -46--57V (PoE power supply, the devices with POE function)

When connecting power supply, use the below suggested power supply jack or MIM PC power supply jack for reliable grounding. When laying cables for buildings, the ground wires of the power supply system have been installed underground. Users should ensure the reliable grounding and make the corresponding processing.

The input wire of the DC power supply is the private three-core DC wire. Use the furcated lug to connect the American Standard DC socket (8.25 distance and M3 crimp screw).

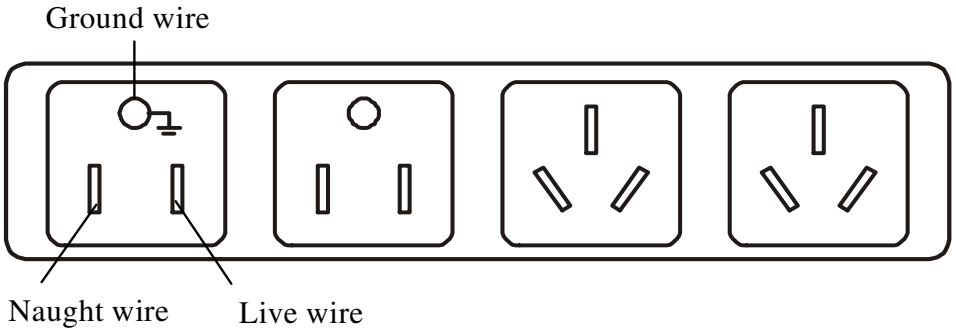
The connection method is as follows:

DC power cabling

No.	Color	Diameter	Corresponding End

1	Blue	1mm²	−48V
2	Black	1mm²	0V
3	Kelly	1mm²	Protection ground

The following is the common AC power jack:



Connect the power supply as follows:

- Step 1: Put the power supply switch to OFF. For AC switch, connect one side of AC power supply cable to the AC power input end of the back panel of the switch and another side to power supply jack; for DC switch, connect the power cable to the post according to the description of panel silk screen on the interface.
- Step 2: Put power supply switch to ON.
- Step 3: Check whether the power supply indicator of the front panel is on. If not, repeat step 1 and 2.

🕮 Note
If the power supply indicator is not on after repeating the above steps, contact the agent.

Install Modules

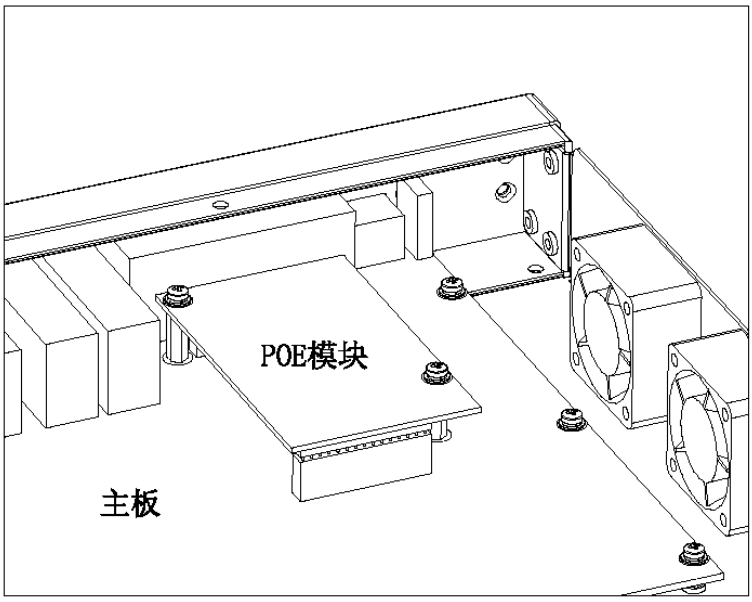
Install POE15-8PSE Module

The steps for installing POE15-8PSE module:

Open the module package, check the modules and then begin to install the modules.

1) Open the chassis and install the stud bolts.
2) Insert the modules into the connectors on the main board to ensure the reliable contact (note that the pins on the circuit board of the modules must aim at the back of the connector socket on the main board).
3) Tighten the screws.

4) The modules can be dismantled as per the reverse order.



Install POE15-8PSE (POE module) module

Cables

Ethernet Interface Cable

Ethernet interface cable of 065-7434 Signamax 24-Port 10/100 L3 switch adopts 8-pin non-screen twisted pair. Silver plate 1 and 2 are the sending ends; silver plate 3 and 6 are the sending ends.

The connection relation of RJ45 straight-through cable (type-5 twisted-pair):

RJ45	Signal	Direction	RJ45	Description	Length
1	TX0+	—>	1	Twisted-pair 1	2m
2	TX0-	—>	2		
3	RX0+	<—	3	Twisted-pair 2	
6	RX0-	<—	6		
4	48V	—>	4	Twisted-pair 3	
5	48V	—>	5		
7	0V	<—	7	Twisted-pair 4	
8	0V	<—	8		

The connection relation of RJ45 crossover cable (type-5 twisted-pair):

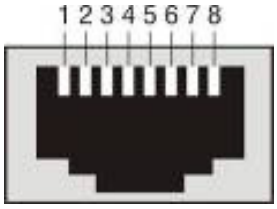
RJ45	Signal	Direction	RJ45	Description	Length
1	TX+	—>	3	Twisted-pair 1	2m
2	TX-	—>	6		
3	RX+	<—	1	Twisted-pair 2	
6	RX-	<—	2		
4	48V	—>	7	Twisted-pair 3	
5	48V	—>	8		
7	0V	<—	4	Twisted-pair 4	
8	0V	<—	5		

Cables of Ethernet Optical Interface

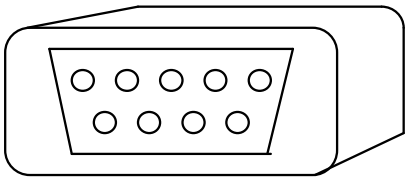
The Ethernet optical interface cable of 065-7434 Signamax 24-Port 10/100 L3 Switch is the single-mode or multi-mode fiber of the LC interface.

Console Port Cable

065-7434 Signamax 24-Port 10/100 L3 Switch Console port cable is connected with PC 9-pin serial jack, and it is 8-pin non-screen cable. One side is RJ45 plug and another is DB9 (hole).



RJ45 jack



5 4 3 2 1
9 8 7 6

Standard DB9 interface

The connection relation of Console port cable:

RJ45	**Signal**	**Direction**	DB9	**Length**
1	CTS	—>	8	2m
2	DSR	—>	6	
3	RXD	—>	2	
4	GND	---	5	
5	---	---	---	
6	TXD	<—	3	
7	DTR	<—	4	
8	RTS	<—	7	
	---	---	1	
	---	---	9	

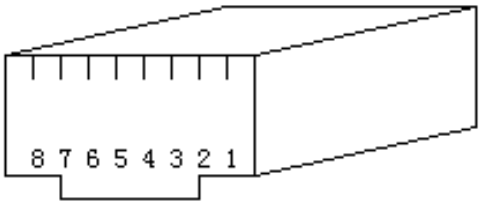
RJ45-2BNC Cable of E1/T1 Interface

E1/T1 interface uses RJ45-2BNC cable and the model is M1234-1372.

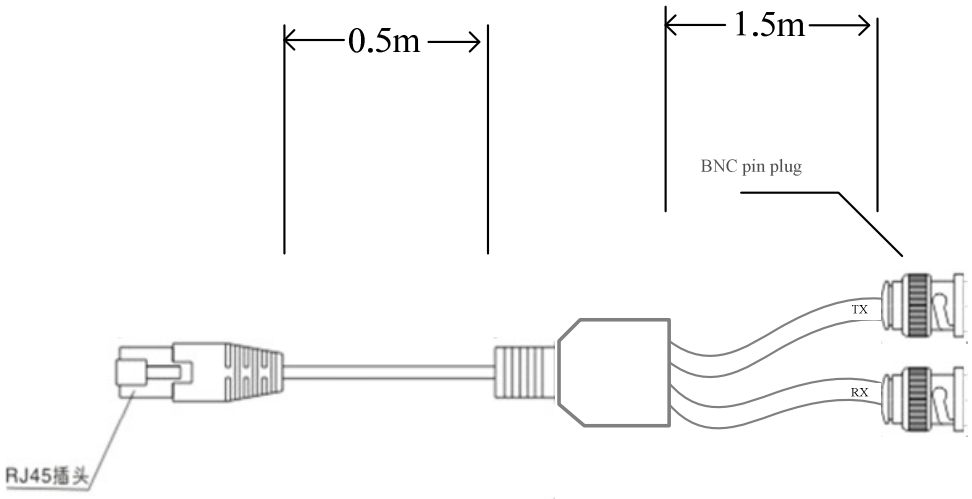
The connection relation of E1/T1 interface cable

Pin No. of RJ45 Crystal Head	Coaxial-cable Plug	Twisted-pair Color	Connection Pairs of Twisted-pair (1, 2, 3, 4)
1	RX core	Orange	1
2	RX shell	Orange-white	1
3	Empty	Green-white	2
4	TX core	Blue	3
5	TX shell	Blue-white	3
6	Empty	Green	2
7	Empty	Brown-white	4
8	Empty	Brown	4

The method of judging the pin numbers of RJ45 crystal head: Use the hand to hold the tail of the crystal head. The forward or upward is the inserting direction. From the left to the right on the side with contact strip are pin 1, pin 2…pin 8.



Pins of RJ-45 crystal head



RJ45 head-BNC pin

3I3O Interface Cable

The 3I3O input interface cable of 065-7434 Signamax 24-Port 10/100 L3 Switch is 8-pin non-screen twisted pair.

The connection relation of RJ45 straight-through cable (type-5 twisted pair):

RJ45	Signal	Direction	RJ45	Description
1&2	Input1	<—	1,2	Twisted-pair 1
3&6	Input2	<—	3,6	Twisted-pair 2
4&5	Input3	<—	4,5	Twisted-pair 3
7&8	Reserved		7,8	Twisted-pair 4

The 3I3O output interface cable of 065-7434 Signamax 24-Port 10/100 L3 Switch is 8-pin non-screen twisted pair.

The connection relation of RJ45 straight-through cable (type-5 twisted pair):

RJ45	Signal	Direction	RJ45	Description
1&2	Output 1	—>	1,2	Twisted-pair 1
3&6	Output 2	—>	3,6	Twisted-pair 2
4&5	Output 3	—>	4,5	Twisted-pair 3
7&8	Reserved		7,8	Twisted-pair 4